



Social capital and political institutions: Evidence that democracy fosters trust[☆]



Martin Ljunge*

Research Institute of Industrial Economics (IFN), Box 55665, SE-102 15 Stockholm, Sweden

HIGHLIGHTS

- This paper presents evidence that democracy fosters trust.
- Second generation immigrants in Europe with ancestries from 115 countries are studied.
- The results are robust to individual, parental, and ancestral country controls.
- The results suggest that less hierarchical political institutions promote trust.
- The mechanism is that institutions shape beliefs that are diffused across generations.

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ABSTRACT

This paper finds evidence that more democratic political institutions increase trust. Second generation immigrants with ancestries from 115 countries are studied within 30 European countries. Comparing individuals born and residing in the same country, those whose father was born in a more democratic country express higher trust than those whose father was born in a less democratic country. The results are robust to individual, parental, and ancestral country controls.

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1. Introduction

This paper estimates how political institutions shape trust, a culturally transmitted belief. I estimate how beliefs imparted by more democratic institutions are transmitted across generations and shape trust. Second generation immigrants across Europe are studied. The trust of immigrant groups, within country of birth, is related to the democratic institutions in their ancestral country.

The 115 ancestral countries offer a wide range of political institutions.

The method combines the approaches of [Algan and Cahuc \(2010\)](#), who relate trust of immigrants in the US to trust in their home countries and [Tabellini \(2010\)](#) who studies how political institutions shape trust at the regional level. This paper studies how individual trust attitudes are shaped by political institutions.

The analysis adds evidence to [Putnam's \(1993\)](#) hypothesis of a positive relationship between political institutions and social capital. In this vein [Guiso et al. \(2008\)](#) study how ancient city-states affect social capital across Italy. Yet, neither [Guiso et al.'s \(2008\)](#) nor [Tabellini's \(2010\)](#) analysis can distinguish if the location or population matters for their findings. The evidence presented below indicates that the population is important as the individuals studied are not exposed to the political institutions directly, as they live in

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* Tel.: +46 8 665 4517; fax: +46 8 665 4599.

E-mail addresses: martin.ljunge@ifn.se, martinljunge@gmail.com.

different locations. The exposure is only indirect through cultural transmission in the family.¹ Moreover, the analysis below focuses on how trust is shaped based on the father's ancestry, which complements the analysis of how the mother's ancestry shapes trust in Ljunge (2012a) where ancestral trust is the important factor.

This paper contributes to a small but growing literature on how more horizontal interactions between individuals and less hierarchical institutions promote trust. The literature has found higher trust when there is less religious hierarchy (Guiso et al., 2006), less hierarchical language structure (Tabellini, 2008), more horizontal teaching practice (Algan et al., 2013), more community involvement (Algesheimer et al., 2012), less surveillance (Jacob and Tyrell, 2010), and more economic freedom (Knack and Zak, 2003; Aghion et al., 2010; Berggren and Jordahl, 2006). This paper finds a positive relationship between trust and more political freedom.

2. Empirical specification

The analysis is based on ordinary least squares regressions of the following form²:

$$\text{Trust}_{icat} = \beta_0 + \beta_1 \text{Democracy_Index}_a + \beta_2 X_{icat} + \gamma_{ct} + \varepsilon_{icat}. \quad (1)$$

Trust_{icat} captures the trust of individual i , born and residing in country c with a parent born in country a , and $a \neq c$, in period t . This regression is run on a sample of second generation immigrants. The degree to which political institutions are democratic in the ancestral country, Democracy_Index_a , is common to all individuals with a father born in country a . X_{icat} captures individual demographic and economic controls that may affect trust. The country of birth-by-year fixed effect is denoted by γ_{ct} , and ε_{icat} is the error term. All standard errors are clustered by the father's birth country to allow for arbitrary correlations of the error terms among individuals with the same ancestral country.

Model (1) addresses reverse causality since the trust of a person born and residing in country c cannot plausibly affect how democratic political institutions are in the father's birth country a . Confounding factors are of course a concern so it is important to include an extensive list of individual controls in X_{icat} . The inclusion of the country-by-year fixed effect γ_{ct} means that the institutional structure and all other unobserved influences which apply to all residents in country c in period t are accounted for. It also means that the variation used to identify the estimate on ancestral trust is to compare the outcomes of second generation immigrants within each country of residence and year relative to the democracy index in their countries of ancestry. Since the country fixed effects are included for each year they account for non-linear trends that may differ across countries. Fernandez (2010) discusses the method in more detail.³

3. Data

The main data set is the European Social Survey (ESS), where the second to fifth rounds are pooled.⁴ The survey includes information on the country of birth of the respondent as well as the country of birth of the father.⁵ It is possible to identify second generation immigrants and which countries their fathers originate from. Looking at 30 countries of birth (and residence) for second generation immigrants reduces the concern that the results are driven by conditions in one particular country. Individuals with ancestry from

115 countries are observed.⁶ This reduces the concern that the results are particular to a small number of ancestral backgrounds. The summary statistics are presented in Table 1. The second generation immigrants are similar to the native population on observables.

3.1. Individual trust

Generalized trust for the individual is measured with the standard trust question, "Using this card, generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" The respondent is asked to respond on a scale, "Please tell me on a score of 0–10, where 0 means you can't be too careful and 10 means that most people can be trusted".⁷

3.2. Political institutions in the father's country of birth

Political institutions in the father's country of birth are measured by the polity2 variable from the Polity IV project.⁸ The variable takes on values from –10 for strongly autocratic to +10 for the most democratic political institutions (–9 is the lowest value observed in the sample). The democracy measure can be matched with second generation immigrants from 115 nations in the ESS.

3.3. Individual variables

The ESS includes a rich set of individual controls. Age, gender, marital status, education, employment status, and religious affiliation are observed. Marital status is captured by two dummies for married and never married, with widowed and divorced being the excluded category. Education is captured by one dummy for tertiary (university) degree and above, and one dummy for upper secondary as the highest attained degree. Lower education is the excluded category. One dummy captures individuals who are out of the labor force (students, not employed and not looking for work, and retired) and another dummy for unemployed who look for work. Those employed are the omitted category. I create one dummy for the bottom three income deciles (within country), Low Income, and one dummy for the middle four deciles, Middle Income. Religion dummies for being a Catholic, a Protestant, or an Orthodox are included while other religious denominations are in the excluded category.

3.4. Additional ancestral country characteristics

Ancestral country political institutions, the variable of main interest in the analysis below, are related to other ancestral country characteristics. Ancestral country trust is computed as averages by country across the waves in the integrated European/World Values Survey.⁹ The log of the ancestral country's gross domestic product (GDP) per capita is used to measure the effect of ancestry from a more developed nation. The data is from the World Development Indicators.¹⁰ To account for ancestral institutional influences I use rule of law measure in the Worldwide Governance Indicators (WGI) from the World Bank.¹¹ The measure of how important politics is in life is country averages across the waves in the integrated European/World Values Survey.

¹ This result aligns with Putterman and Weil (2010) who find that populations and not locations matter for economic development.

² The results are robust to using the ordered Logit or the ordered Probit estimator.

³ For an application of the method, see for example Ljunge (2012b).

⁴ See Table A.1 for the participating countries in each round. The first round does not include information on parental birth country.

⁵ Extensive documentation of the data is available at <http://ess.nsd.uib.no/>.

⁶ Political institutions can be linked to immigrants from 115 countries but other ancestral country variables are available for fewer countries.

⁷ Johnson and Mislin (2012) provide experimental validation that trust elicited by the trust question correlate with trusting behavior.

⁸ For details on the measure see <http://www.systemicpeace.org/polity/polity4.htm>.

⁹ Extensive documentation is available at www.worldvaluessurvey.org.

¹⁰ I use data compiled by Samanni et al. (2010) as the source for these ancestral country characteristics.

¹¹ Data and documentation are available at <http://www.govindicators.org>.

Table 1
Summary statistics.

Variable	Immigrant father sample		Native population sample	
	Mean	Std. Dev.	Mean	Std. Dev.
Trust	4.84	2.47	4.86	2.52
Polity2, father's birth country	5.94	5.80		
Age	43.8	18.0	47.9	18.7
Female	0.543	0.498	0.541	0.498
Married	0.488	0.500	0.533	0.499
Never married	0.329	0.470	0.271	0.444
Upper secondary degree	0.500	0.500	0.446	0.497
College/university degree	0.268	0.443	0.230	0.421
Employed	0.445	0.497	0.482	0.500
Unemployed	0.049	0.215	0.038	0.191
Low income	0.224	0.417	0.253	0.435
Middle income	0.303	0.459	0.299	0.458
Catholic	0.170	0.376	0.299	0.458
Protestant	0.062	0.242	0.127	0.333
Orthodox	0.119	0.324	0.108	0.311
Upper secondary education, father	0.186	0.389	0.201	0.401
Tertiary education, father	0.123	0.329	0.090	0.286
Working father (at age 14)	0.840	0.367	0.870	0.337
Upper secondary education, mother	0.178	0.383	0.174	0.379
Tertiary education, mother	0.093	0.290	0.068	0.251
Working mother (at age 14)	0.587	0.492	0.539	0.498
Observations	8075		161571	

Notes: Data from the European Social Survey, rounds 2 through 5. The immigrant father sample refers to individuals born in the country of residence whose father is born in a different country. The native population sample excludes individuals who are born abroad or have one parent born abroad (compared to the individual's residence country).

4. Results

The first results from a model with only the most exogenous individual controls, as well as the country of birth-by-year fixed effects, are presented in the first specification of Table 2. There is a positive and highly significant estimate on the democracy measure in the father's birth country. To account for individual confounders the second specification adds individual controls for marital status, education, labor market status, income, and religion. The estimate on ancestral country democracy remains strongly significant. The estimates on the individual controls are similar to those in the literature; see for example Alesina and La Ferrara (2002).

The estimated coefficient on ancestral democratic institutions is comparable in magnitude to other determinants of trust. Moving from a strongly autocratic to a strongly democratic ancestry implies an impact on trust corresponding to one and a half times the influence of a high school degree (compared to less education). It also corresponds to about two thirds of the difference between high school and college education. The estimates imply a quantitatively significant role for political institutions in forming trust.

To account for parental influences on trust, in particular human capital and labor supply, the following specification adds controls for upper secondary, tertiary education, and if the parent was working when the individual was age 14, for the father and mother, respectively. This shuts down any intergenerational transmission of trust through parental education. Controlling for the parents', as well as the individual's own, education is a direct way to account for the transmission of human capital from the family background.¹² The influence of ancestral democracy remains strongly positive. Moreover, a working father and a highly educated mother have strong positive associations with trust. These controls also account for sorting on education and labor supply among immigrant

Table 2
Trust and democracy. Baseline results.

Dependent variable: trust			
	(1)	(2)	(3)
Democratic institutions (polity2), father's birth country	0.020 (0.006) ^{***}	0.017 (0.006) ^{***}	0.015 (0.006) ^{***}
Age	-0.004 (0.008)	-0.028 (0.012) ^{**}	-0.023 (0.012) [*]
Age squared/100	0.003 (0.008)	0.027 (0.012) ^{**}	0.025 (0.012) ^{**}
Female	-0.017 (0.053)	-0.052 (0.051)	-0.055 (0.052)
Married		0.029 (0.072)	0.031 (0.072)
Never married		-0.006 (0.109)	-0.016 (0.108)
Upper secondary		0.266 (0.073) ^{***}	0.238 (0.071) ^{***}
College or university		0.934 (0.081) ^{***}	0.820 (0.079) ^{***}
Outside the labor force		0.016 (0.060)	0.025 (0.060)
Unemployed		-0.259 (0.170)	-0.235 (0.170)
Low income		-0.149 (0.077) [*]	-0.133 (0.076) [*]
Middle income		-0.003 (0.060)	0.008 (0.060)
Catholic		-0.082 (0.091)	-0.076 (0.090)
Protestant		0.172 (0.097) [*]	0.150 (0.096)
Orthodox		0.095 (0.132)	0.092 (0.138)
Upper secondary education, father			-0.045 (0.052)
Tertiary education, father			0.168 (0.121)
Working father (at age 14)			0.225 (0.068) ^{***}
Upper secondary education, mother			0.301 (0.076) ^{***}
Tertiary education, mother			0.362 (0.126) ^{***}
Working mother (at age 14)			-0.002 (0.052)
Country-by-year fixed effects	Yes	Yes	Yes
R-squared	0.096	0.118	0.122
Observations	8393	8075	8075

Notes: The dependent variable is trust, which ranges from 0, most distrustful, to 10, most trustful. The sample is of second generation immigrants with an immigrant father. Democratic institutions measured by the polity2 variable from the Polity IV project range from -10, strongly autocratic, to 10, strongly democratic. Data is from the second to fifth waves of the European Social Survey. Standard errors in parenthesis. Standard errors allow for clustering on the father's birth country.

^{*} Significance, $p < 0.1$.

^{**} Significance, $p < 0.05$.

^{***} Significance, $p < 0.01$.

parents, although the summary statistics in Table 1 do not indicate sorting as second generation immigrants and their parents look similar to natives on observables.

Yet, selection of migrants may not be a problem for identifying the influence of political institutions on trust. If there is selection of migrants, for example if only the most trusting migrate, it may not affect the estimate since it is identified from differences, not levels, across ancestral countries. Moreover, if selection is differential such that more trusting individuals in autocratic regimes tend to migrate, relative to migrants from more democratic countries, this would attenuate the estimate. The challenge to identification would be differential selection such that migrants from less democratic countries come from the bottom of the trust distribution while migrants from more democratic countries come from the top of the trust distribution.

¹² Fernández and Fogli (2009) use proxies for parental education to account for human capital transmission in their study of female labor force participation as their data do not include information in the parents' education level.

Table 3
Robustness to additional ancestral factors.

Dependent variable: trust						
Alternative specification:	Trust	Economic development	Rule of law	Income inequality	Political attitudes	Exclude strongly democratic ancestries
	(1)	(2)	(3)	(4)	(5)	(6)
Democratic institutions (polity2), father's birth country	0.020 (0.007) ^{***}	0.016 (0.007) ^{**}	0.016 (0.007) ^{**}	0.016 (0.007) ^{**}	0.017 (0.006) ^{***}	0.022 (0.008) ^{**}
Trust, father's country of birth	0.334 (0.422)	0.617 (0.440)	0.679 (0.438)	0.538 (0.415)	0.252 (0.448)	0.959 (0.616)
log of GDP per capita, father's country of birth		−0.024 (0.036)	0.010 (0.063)	0.010 (0.063)	−0.015 (0.059)	0.017 (0.071)
Rule of law, father's country of birth			−0.047 (0.070)	−0.063 (0.066)	−0.041 (0.065)	−0.105 (0.057) [†]
Gini coefficient (of income) father's country of birth				−0.007 (0.006)	−0.010 (0.006)	−0.006 (0.010)
Importance of politics, father's country of birth					0.485 (0.134) ^{***}	−0.039 (0.206)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Country-by-year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.124	0.127	0.127	0.128	0.129	0.101
Observations	7468	7298	7298	7260	7257	3764

Notes: The dependent variable is trust, which ranges from 0, most distrustful, to 10, most trustful. All specifications study second generation immigrants and estimate the effect of political institutions in the father's country of birth on trust. Individual controls include age, age squared, gender, education, labor force attachment, income, and religious denomination. Country of birth-by-year fixed effects are included in all specifications. Data is from the second to fifth waves of the European Social Survey. Trust and the importance of politics in life are computed by country across the waves in the integrated European and World Values Survey. GDP per capita and the Gini are from the World Development Indicators, and the rule of law measure from the Worldwide Governance Indicators from the World Bank. Column (6) restricts the sample to those with ancestries from countries with polity2 < 10. Standard errors in parenthesis, which allow for clustering on the father's birth country.

[†] Significance, $p < 0.1$.

^{**} Significance, $p < 0.05$.

^{***} Significance, $p < 0.01$.

To assess the influence of migrant sorting the trust of first generation immigrants and the native population in their respective birth country have been examined. Focus is on European countries since the ESS provides the same trust measure for both migrants and natives. The result indicates that the estimate on ancestral country democracy is not driven by migrant sorting. First, migrants are on average more trusting than the native population in their birth country. Second, the positive trust gap of migrants is on average higher for those from less democratic countries than the strongly democratic countries.¹³ Although more work is warranted in this area, the patterns suggest that migrant selection does not drive the positive relationship between democracy and trust. If anything, it indicates that migrant selection might attenuate the relationship.

Table 2 uses all the available data. There may be a concern that the results are influenced by ancestries with few second generation immigrants in the data. The results are robust to including ancestral countries with at least 5, 10, 15, 25, or 50 observations. The result is not driven by small immigrant groups. This sample trimming also excludes most low income ancestries such as African countries.

As Tabellini (2008, 2010) uses regional variation within countries there may be a concern that the results are influenced by unobserved differences across regions in the country of birth. Instead of the country of birth fixed effects I estimate the model with region fixed effects (and survey round fixed effects). The estimates are very similar in the two models.

4.1. Alternative ancestral influences

More democratic institutions tend to exist in countries with high trust and national income. It could hence be that trust is

shaped by ancestral trust or level of development rather than democratic institutions. Algan and Cahuc (2010) find a strong influence of ancestral country trust on immigrants in the US. To account for the influence of ancestral trust I include mean trust in the father's birth country to the model.¹⁴ Democracy in the father's birth country remains significant while trust is insignificant as seen in column 1 of Table 3. The second specification adds the log of the gross domestic product per capita to the model. Democracy remains significant while ancestral country national income and trust are insignificant. It is hence the democratic institutions that are associated with trust of the second generation immigrants and not inherited trust or level of development.

Next, another institutional feature of the ancestral country is added. It is "Rule of Law" where property rights and the judicial process are large components. Adding the rule of law variable to the model in the third column of Table 3 produces an insignificant estimate while democracy is unaffected. Countries with autocratic regimes tend to have an uneven income distribution. To separate out the effect of income inequality from political institutions the Gini coefficient of the ancestral country is added to the model. The Gini estimate is insignificant while the democracy estimate is unchanged, as seen in column 4 of Table 3.

In order to account for attitudes towards politics I compute the average value that individuals put on politics in their life. A higher value captures that politics is more important in the ancestral country. The attitudes towards politics are added to the model in column 5 of Table 3. The estimate on political attitudes is strongly positively related to trust and the estimate on democratic institutions remains significant. This corroborates the hypothesis that the cultural transmission of political attitudes shape trust. Among all the ancestral country characteristics accounted for only the political institutions and attitudes are significantly associated with trust.

¹³ The trust difference between migrants and natives in the less democratic countries is on average 1.3, while the difference is 0.5 for strongly democratic countries. Natives are defined as in Table 1.

¹⁴ Individual controls and country of birth-by-year fixed effects as in column 2 of Table 2 are also included.

As most of the developed nations have the highest value on the democracy index, one might be concerned that these countries drive the result. The model is estimated on a sample without the strongly democratic countries (that is, with a polity2 value less than 10). The result in column 6 of Table 3 shows that democracy remains strongly significant also in this sample ($p = 0.010$). Notable is that the attitudes towards the importance of politics is insignificant in this sample, implying that this effect is driven by ancestry from strongly democratic countries.

To assess the importance of democracy relative other ancestral country characteristics trust is regressed on country of origin dummies (instead of democracy) as well as the individual controls and the country of birth-by-year fixed effects. The coefficients on the country of origin dummies, which measure average trust differences to natives across ancestries, are first regressed on the democracy index in the ancestral country, which explain 6% of the variation. Second, the country of origin coefficients are regressed on ancestral democracy as well as ancestral trust, national income, rule of law, and the income Gini. The model explains 19.5% of the variation in trust differences across ancestries. Ancestral political institutions hence account for 30% of the explained variation, indicating a substantial role for political institutions in explaining trust differences among individuals.

5. Conclusion

By comparing second generation immigrants within country of birth I find that those with a father born in a more democratic country express higher trust than those with a father from a less democratic country. The approach of studying second generation immigrants addresses reverse causality, that trust may shape political institutions, and provides a clear causal direction from political institutions to trust. Addressing reverse causality is necessary for a causal interpretation of the estimate but sufficiency requires the additional assumption that omitted factors do not drive the result. This is always an untestable assumption required for a causal interpretation. It is reassuring that the estimated influence of democracy is robust to plausible alternative ancestral influences, and that these influences are insignificant. It provides some credibility that the identifying assumption might hold and that the estimate could be interpreted causally. The results suggest that spreading democracy might have unintended consequences by promoting trust, which in turn may lead to further economic development.¹⁵

Moreover, it may be important to point out that the result is not generated directly by the political institutions where they exist. The estimated mechanism is that the institutions shape individual beliefs that are transmitted culturally across generations within families (see Bisin and Verdier, 2001, 2010). The estimated mechanism is a feature of the population exposed to the institutions and not the effect of living in a location where those institutions are present. This provides evidence of one mechanism through which institutions may have persistent effects on outcomes. Institutions may shape beliefs that are transmitted from parents to children even when the children live under different institutions.

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Appendix. Table

See Table A.1.

Table A.1
Countries participating in the ESS by survey round.

Country	Survey round:				
	1	2	3	4	5
Austria	X	X	X		
Belgium	X	X	X	X	X
Bulgaria			X	X	X
Croatia					X
Cyprus			X	X	X
Czech Republic	X	X		X	X
Denmark	X	X	X	X	X
Estonia		X	X	X	X
Finland	X	X	X	X	X
France	X	X	X	X	X
Germany	X	X	X	X	X
Greece	X	X		X	X
Hungary	X	X	X	X	X
Ireland	X	X	X	X	X
Israel	X			X	X
Italy	X	X			
Luxembourg	X	X			
Netherlands	X	X	X	X	X
Norway	X	X	X	X	X
Poland	X	X	X	X	X
Portugal	X	X	X	X	X
Russian Federation			X	X	X
Slovakia		X	X	X	X
Slovenia	X	X	X	X	X
Spain	X	X	X	X	X
Sweden	X	X	X	X	X
Switzerland	X	X	X	X	X
Turkey		X		X	
Ukraine		X	X	X	X
United Kingdom	X	X	X	X	X

Note: Edition 2.0 of ESS round 5 is used, and the cumulative file for earlier rounds.

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¹⁵ Recent contributions make stronger claims that trust cause higher economic development, Algan and Cahuc (2010) and Tabellini (2010), which builds on for example Zak and Knack (2001).

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